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10/598,460	08/31/2006	Steven M. Palay	076.0021US	5763

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EXAMINER

SPAR, ILANA L

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/598,460	Applicant(s) PALAY ET AL.
	Examiner ILANA SPAR	Art Unit 2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/30/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 22-50 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 12/059,990. Although the conflicting claims are not identical, they are not patentably distinct from each other because the current application teaches a broader version of the invention of the copending application. Claim 1 of the copending application teaches a surface and cordless transducer system, the system comprising:

a surface, the surface including:

at least one transmitting coil for radiating an electromagnetic field to a transducer to power the transducer, the at least one transmitting coil having a resonant frequency (see claim 22 of the current application, lines 3-5);

a transmit signal source, the transmit signal source providing a powering signal to drive the at least one transmitting coil (see claim 35), the powering signal having a frequency different from the resonant frequency of the at least one transmitting coil;

position resolving grid, the position resolving grid distinct from the at least one transmitting coil, the position resolving grid configured to receive a position signal from the transducer to determine the position of the transducer (see claim 22 of the current application, lines 6-8);

and wherein the transducer comprises:

a resonant circuit, the resonant circuit configured to receive the electromagnetic field from the surface and store energy from the received electromagnetic field (see claim 22 of the current application, lines 10-12).

The current application fails to explicitly claim a surface and a transmit signal source with a frequency different from the resonant frequency. However, the surface is inherently taught in that there must be a surface to the transmitting coil and position resolving grid, as they are physical objects which necessarily have at least one surface. Additionally, the transmit signal source with a frequency different from the resonant frequency would have been obvious to one of ordinary skill in the art at the time of invention because a frequency of a power source can take any value that is advantageous to the specific design of the surface and cordless transducer system.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 22, 23, 28, 32, 35, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamanami et al. (US Patent No. 5,028,745).

With reference to claim 22, Yamanami et al. teaches a surface and cordless transducer system, the system comprising:

at least one transmitting coil (11-1 to 11-48) for radiating an electromagnetic field to a transducer to power the transducer, the at least one transmitting coil having a resonant frequency (see column 3, lines 48-52 and column 4, lines 57-59 - it is inherent that every object has a resonant frequency, and the frequency at which the resonance circuit of the transducer resonates is the resonant frequency of the transmitting coil);

position resolving grid (10), the position resolving grid distinct from the at least one transmitting coil, the position resolving grid configured to receive a position signal from the transducer to determine the position of the transducer (see column 3, lines 40-41 and column 5, lines 48-51);

and wherein the transducer comprises:

a resonant circuit (61), the resonant circuit configured to receive the electromagnetic field from the at least one transmitting coil and store energy from the received electromagnetic field (see column 4, lines 37-39 and column 5, lines 35-38).

With reference to claim 23, Yamanami et al. teaches all that is required with reference to claim 22, and further teaches that the position signal is transmitted by the transducer resonant circuit to the position resolving grid (see column 5, lines 48-51 and column 6, lines 52-57).

With reference to claim 28, Yamanami et al. teaches all that is required with reference to claim 22, and further teaches that the transducer resonant circuit transmits the position signal to the position resolving grid in response to a sync signal (signal C) transmitted on the at least one transmitting coil (see column 5, lines 35-38).

With reference to claim 32, Yamanami et al. teaches all that is required with reference to claim 22, and further teaches that the at least one transmitting coil comprises a plurality of overlapping coils (see column 3, lines 48-52).

With reference to claim 35, Yamanami et al. teaches all that is required with reference to claim 22, and further teaches a transmit signal source, the transmit signal source providing a powering signal to drive the at least one transmitting coil (see column 6, line 67 to column 7, line 10).

With reference to claim 36, Yamanami et al. teaches all that is required with reference to claim 22, and further teaches a means for squelching the at least one transmitting coil when the at least one transmitting coils are not transmitting (see column 5, lines 39-43).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 24-27, 34, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanami et al. in view of Ronkka et al. (US Patent No. 6,002,387).

With reference to claim 24, Yamanami et al. teaches all that is required with reference to claim 23, but fails to teach that the position signal is pulse width encoded.

Ronkka et al. teaches that the position signal is pulse width encoded to transmit data from the transducer (see column 5, lines 22-32).

It would have been obvious to one of ordinary skill in the art at the time of invention to modulate the transmitted data such that the position resolving grid is able to differentiate between the data transmitted from the transmitting coils to the transducer and the data generated by and transmitted from the transducer to the position resolving grid.

With reference to claim 25, Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach a second resonant circuit.

Ronkka et al. teaches that the transducer comprises a second resonant circuit, and that the position signal is transmitted by the second resonant circuit to the position resolving grid (see column 5, lines 14-18).

It would have been obvious to one of ordinary skill in the art at the time of invention to use a second resonant circuit for data transmission such that the first and second circuits may be used simultaneously to allow for constant reception and transmission of data for more accurate transducer position detection.

With reference to claim 26, Yamanami et al. and Ronkka et al. teach all that is required with reference to claim 25, and Ronkka et al. further teaches that the signal transmitted by the second resonant circuit is pulse width encoded to transmit data from the transducer (see column 5, lines 22-32).

It would have been obvious to one of ordinary skill in the art at the time of invention to modulate the transmitted data such that the position resolving grid is able to differentiate between the data transmitted from the transmitting coils to the transducer and the data generated by and transmitted from the transducer to the position resolving grid.

With reference to claim 27, Yamanami et al. and Ronkka et al. teach all that is required with reference to claim 25, and Ronkka et al. further teaches that the second resonant circuit has a different resonant frequency than the resonant circuit (see column 4, lines 63-66 and column 5, lines 14-23 – the resonant frequency of the second circuit

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is modulated, while the frequency of the first circuit is the same as the received frequency, such that the two are different).

With reference to claim 34, Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach an oscillator that activates a tuned circuit.

Ronkka et al. teaches that the transducer further includes an oscillator that activates a tuned circuit in response to the receipt of a sync signal to transmit a pulse width encoded electromagnetic signal (see column 5, lines 14-32).

It would have been obvious to one of ordinary skill in the art at the time of invention that the tuned circuit, when supplied with an oscillation from the transmitting coil, is able to create an oscillation in the resonant circuit, and it would have further been obvious to transmit a pulse width encoded signal such that the position resolving grid is able to differentiate between the data transmitted from the transmitting coils to the transducer and the data generated by and transmitted from the transducer to the position resolving grid.

With reference to claim 38, Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach an oscillator.

Ronkka et al. teaches that the transducer further comprises an oscillator, the oscillator configured to drive the resonant circuit with an oscillator signal to generate and transmit the position signal (see column 5, lines 14-32).

It would have been obvious to one of ordinary skill in the art at the time of invention that the tuned circuit, when supplied with an oscillation from the transmitting

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coil, is able to create an oscillation in the resonant circuit, which is already known to generate and transmit the position signal to the position detecting grid.

With reference to claim 39, Yamanami et al. and Ronkka et al. teach all that is required with reference to claim 38, and Ronkka et al. further teaches that the oscillator signal has a frequency different from the first resonant frequency (see column 5, lines 14-32 – the modulated frequency is different than the original resonant frequency transmitted by the transmitting coils).

8. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanami et al. in view of Katsurahira (US Patent No. 5,679,930).

Yamanami et al. teaches all that is required with reference to claim 22, and further teaches a transmission controller, the transmission controller configured to selectively turn on the transmit signal source to provide a signal for transmitting information to the transducer (see column 6, line 67 to column 7, line 10).

Yamanami et al. fails to teach that the signal is pulse width encoded.

Katsurahira teaches a pulse width encoded signal for transmitting information to the transducer (see column 10, line 63 to column 11, line 2).

It would have been obvious to one of ordinary skill in the art at the time of invention for the signals transmitted to the transducer to have a variable length such that the length of each signal is dependent on the type of signal being transmitted and the requirements of that particular data, as taught by Katsurahira.

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9. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanami et al. in view of Katsurahira as applied to claim 29 above, and further in view of Murakami et al. (US Patent No. 4,848,496).

Yamanami et al. and Katsurahira teach all that is required with reference to claim 29, but fail to teach the control logic configured to determine the received signal and selectively control the transducer.

Murakami et al. teaches that the transducer further includes control logic, the control logic configured to determine the signal from the received electromagnetic field and selectively control the transducer in response to the signal (see column 7, lines 35-40).

It would have been obvious to one of ordinary skill in the art at the time of invention that it may not always be required for the transducer to respond to the signal transmitted from the transmitting coil, such that a determining feature is required to instruct the transducer on when to operate in response to the received signal.

10. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanami et al. as applied to claim 22 above, and further in view of Ronkka et al. in view of Murakami et al.

Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach using control logic to vary the length of the position signal from the transducer.

Ronkka et al. teaches varying the length of the position signal from the transducer (see column 5, lines 14-23).

It would have been obvious to one of ordinary skill in the art at the time of invention to modulate the transmitted data such that the position resolving grid is able to differentiate between the data transmitted from the transmitting coils to the transducer and the data generated by and transmitted from the transducer to the position resolving grid.

Yamanami et al. and Ronkka et al. fail to teach using control logic to modulate the signal length.

Murakami et al. teaches using control logic to vary signal output (see column 7, lines 35-40).

It would have been obvious to one of ordinary skill in the art at the time of invention that the position signal length may not always be consistent, particularly if it is dependent on a variable aspect of information from the transducer, such as pressure, such that it may be necessary for control logic to determine what length of signal is required.

11. Claims 33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanami et al. in view of Katsurahira et al. (US Patent No. 6,005,555).

With reference to claim 33, Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach an active and a standby condition.

Katsurahira et al. teaches that the transducer has an active condition and a standby condition, and wherein the transducer resonant circuit in the standby condition resonates in response to the electromagnetic field, and responsive to receipt of a sync

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signal, the transducer is put in an active condition to vary the length of the position signal from the transducer (see column 3, lines 14-19 and lines 25-34).

It would have been obvious to one of ordinary skill in the art at the time of invention that while the position detecting grid may always be able to detect the location of the transducer, other information may not be desired at all times. However, when other information is desired the position detecting grid can command the transducer to vary the position signal such that it contains other useful information as well.

With reference to claim 37, Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach that the transducer resonant circuit has a resonance frequency different from the resonant frequency of the at least one transmitting coil.

Katsurahira et al. teaches that the transducer resonant circuit has a resonance frequency different from the resonant frequency of the at least one transmitting coil (see column 5, lines 41-48 - by shifting from the first resonant frequency, which is meant to be the resonant frequency of the coils, to a second resonant frequency, the resonant frequency becomes different than that of the transmitting coils).

It would have been obvious to one of ordinary skill in the art at the time of invention that different objects each have a different resonant frequency based on their structure and composition, such that the transmitting coils and the resonance circuit may not have the same resonance.

12. Claims 40, 43, 44, and 46-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. in view of Katsurahira.

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With reference to claim 40, Murakami et al. teaches a surface and cordless transducer system, the system comprising:

a surface (1) (see column 4, line 15), the surface including:

at least one transmitting coil (11-1) for radiating an electromagnetic field to a transducer to power the transducer (see column 4, line 33 and column 7, lines 6-9);

a transmit signal source (406), the transmit signal source providing a powering signal to drive the at least one transmitting coil (see column 5, line 41);

a transmission controller (401), the transmission controller configured to selectively turn on the transmit signal source to provide a signal for transmitting information to the transducer (see column 5, line 63 to column 6, line 2);

position resolving grid (4), the position resolving grid distinct from the at least one transmitting coil, the position resolving grid configured to receive a position signal from the transducer to determine the position of the transducer (see column 4, lines 18-21);

and wherein the transducer comprises:

a resonant circuit, the resonant circuit configured to receive the electromagnetic field from the at least one transmitting coil and store energy from the received electromagnetic field (see column 5, lines 1-8);

control logic, the control logic configured to determine the signal from the received electromagnetic field and selectively control the transducer in response to the signal (see column 7, lines 35-40).

Murakami et al. fails to teach a pulse width encoded signal.

Katsurahira teaches that the transmission coil transmits a pulse width encoded signal to the transducer (see column 10, line 63 to column 11, line 2).

It would have been obvious to one of ordinary skill in the art at the time of invention for the signals transmitted to the transducer to have a variable length such that the length of each signal is dependent on the type of signal being transmitted and the requirements of that particular data, as taught by Katsurahira.

With reference to claim 43, Murakami et al. and Katsurahira teach all that is required with reference to claim 40, and Murakami et al. further teaches that the pulse width encoded signal transmits an enable command to the transducer (see column 7, lines 6-9 – the transducer is enabled to operate the tuning circuit by the electric wave provided by the transmission coil).

With reference to claim 44, Murakami et al. and Katsurahira teach all that is required with reference to claim 40, and Murakami et al. further teaches that the pulse width encoded signal transmits a load command to the transducer (see column 7, lines 6-9 – the electric wave commands the tuning circuit to generate an induction voltage).

With reference to claim 46, Murakami et al. and Katsurahira teach all that is required with reference to claim 40, and Murakami et al. further teaches that the pulse width encoded signal transmits a clock to the transducer (see column 5, lines 39-42).

With reference to claim 47, Murakami et al. and Katsurahira teach all that is required with reference to claim 40, and Katsurahira teaches that the pulse width encoded signal transmits binary “1”s and “0”s to the transducer (see column 13, lines 31-35).

With reference to claim 48, Murakami et al. and Katsurahira teach all that is required with reference to claim 40, and Murakami et al. further teaches that the resonant circuit is further configured to transmit the position signal to the position resolving grid (see column 7, lines 17-23).

With reference to claim 49, Murakami et al. and Katsurahira teach all that is required with reference to claim 40, and Katsurahira further teaches that the control logic of the transducer is further configured to vary the length of the position signal from the transducer (see column 11, line 64 to column 12, line 12).

With reference to claim 50, Murakami et al. and Katsurahira teach all that is required with reference to claim 40, and Katsurahira further teaches that the control logic of the transducer is further configured to vary the length of the position signal from the transducer to transmit pressure data to the position resolving grid (see column 11, line 64 to column 12, line 12).

13. Claims 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. in view of Katsurahira as applied to claim 40 above, and further in view of Katsurahira et al.

With reference to claim 41, Murakami et al. and Katsurahira teach all that is required with reference to claim 40, but fail to teach updating a transducer ID.

Katsurahira et al. teaches that the pulse width encoded signal transmits a command to update a transducer ID to the transducer (see column 5, lines 41-48).

It would have been obvious to one of ordinary skill in the art at the time of invention that multiple transducer devices may be used with one position sensing grid,

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such that for each transducer that is detected, it must be taken into account that more transducers may later be detected and that each one will need a unique ID such that the position detecting grid does not confuse the transducers.

With reference to claim 42, Murakami et al. and Katsurahira teach all that is required with reference to claim 40, but fail to teach a mode select command.

Katsurahira et al. teaches that the pulse width encoded signal transmits a mode select command to the transducer (see column 5, lines 41-48 – the transducer changes between reset and active modes).

It would have been obvious to one of ordinary skill in the art at the time of invention that the transducer does not always need to actively be transmitting data to the position resolving grid, such that it may operate in both an active and an inactive mode, with the position resolving grid transmitting command signals to dictate in which mode the transducer operates.

14. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. in view of Katsurahira as applied to claim 40 above, and further in view of Iwamura et al. (US Patent No. 5,600,720).

Murakami et al. and Katsurahira teach all that is required with reference to claim 40, but fail to teach an update data encryption command.

Iwamura et al. teaches transmission of an update data encryption command (see column 8, line 56 to column 9, line 15).

It would have been obvious to one of ordinary skill in the art at the time of invention that any type of data may be encrypted for transmission between two

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locations to prevent unrestricted access to the data, and it would have further been obvious that by continually updating the data encryption as taught by Iwamura et al., the security of the data is further guaranteed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ILANA SPAR whose telephone number is (571)270-7537. The examiner can normally be reached on Monday-Thursday 8:00-4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571)272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/
Supervisory Patent Examiner, Art Unit 2629

ILS